

METHODS AND APPARATUS FOR SLACK STEALING  
WITH DYNAMIC THREADS

Abstract

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In a multitasking system executing real-time harmonic and dynamic tasks having various priority levels, slack is stolen from both timeline and reclaimed slack to enable the execution of high priority non-essential tasks on a best efforts basis. Counts of the amount of slack consumed, slack reclaimed, and periodic compute  
10 time consumed are maintained by individual priority level and dynamically updated at certain times. Idle time is calculated by priority level. Available slack is calculated, and slack is allocated and consumed by rate, with the highest rate first and the lowest rate last. Also described are a computer system and various methods that perform slack stealing in a multitasking system in which dynamic tasks can  
15 request activation or deactivation at any time.

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